

# TRANSITIONING TO BLENDED LEARNING: UNDERSTANDING STUDENT AND FACULTY PERCEPTIONS

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## ABSTRACT

This paper describes the conversion of an introductory computing course to the blended learning model at a small, public liberal arts college. Blended learning significantly reduces face-to-face instruction by incorporating rich, online learning experiences. To assess the impact of blended learning on students, survey data was collected at the midpoint and end of semester, and student performance on the final exam was compared in traditional and blended learning sections. To capture faculty perspectives on teaching blended learning courses, written reflections and discussions from faculty teaching blended learning sections were analyzed. Results indicate that student performance in the traditional and blended learning sections of the course were comparable and that students reported high levels of interaction with their instructor. Faculty teaching the course share insights on transitioning to the blended learning format.

## KEYWORDS

Blended learning, hybrid course, computer literacy, assessment

## I. INTRODUCTION

Online learning is emerging as a significant component of course delivery in education today [1]. The primary driver of this movement away from the traditional classroom is the student. For students, online courses provide flexible scheduling, access to world-class programs, and self-paced instruction. Although students show a strong interest in different instructional delivery modes [2], online learning has some limitations. Learning experiences such as field training, observation, initial group collaboration meetings, and laboratory exercises may be better experienced face-to-face. In addition, students with low computer literacy skills may find it more challenging to navigate online courses [3]. To capture the strengths of both online and face-to-face instructional delivery modes, some instructors have adopted a hybrid or blended learning approach (e.g., [4, 5]).

Blended learning significantly reduces face-to-face instruction by incorporating rich, online learning experiences [6]. The blended learning model has experienced significant growth during the past years and this can be attributed to the following factors: the flexibility normally characteristic of a totally online course, its impact on overcrowded classrooms and a perceived improvement in the teaching and learning experience. Although there are potential benefits, transitioning from traditional face-to-face course to blended learning courses can be challenging for both students and faculty. For instance, students successful in blended learning courses need to be independent learners, have good time management skills, and feel comfortable using technology [7]. Faculty teaching blended learning courses must adopt new tools and new mindsets to increase the likelihood of positive outcomes [8]. Considering these potential challenges, transitioning to the blended learning model should be carefully managed to ensure that both students and faculty are ready and receptive to this approach.

This paper reports on a two-year study on implementing and assessing blended learning at Georgia Gwinnett College (GGC), a small public liberal arts college established in 2006. GGC emphasizes student engagement, active-learning environments, and educational innovation. GGC focuses on face-to-face

classroom experience while also exploring how portable technology solutions can allow students to learn, study, and work both on and off campus [9,10]. Hence, adopting blended learning principles seemed completely consistent with achieving these goals. The study was guided by the following research questions:

1. What do students perceive as the benefits and challenges of taking blended learning courses?
2. What do faculty perceive as the benefits and challenges of teaching blended learning courses?

Beginning in Fall 2008, several sections of the introductory computer literacy course were transitioned from a traditional face-to-face format to a blended learning format. To assess the impact of blended learning on students, survey data was collected at the midpoint and end of semester, and student performance on the final exam was compared in traditional and blended learning sections. To capture faculty perspectives on teaching blended learning courses, written reflections and discussions from faculty teaching blended learning sections were analyzed.

The paper proceeds as follows. First, existing research on blended learning is presented with a specific focus on student and faculty experiences. Second, the research method for assessing blended learning at GGC is described. Third, results from the two-year study are presented. In conclusion, key insights, lessons learned, and future research directions are discussed.

## II. EXISTING RESEARCH

Student satisfaction and learning in blended learning courses has typically been explored using the case study research method [11]. Case study research relies on multiple sources of evidence to better understand complex, real-world situations [12]. Although the results from a single case study are not generalizable, researchers can identify relevant themes by analyzing results from multiple case studies [12, 13]. An analysis of student satisfaction with blended learning courses revealed several benefits, particularly when compared to the online-only format. For instance, students in blended learning courses appreciated flexible scheduling, self-paced online materials, and face-to-face interaction with instructors [14, 15]. Students in blended learning courses also recognized that this format helped them develop more responsibility for their learning [16].

At the same time, students in blended learning courses expressed some concerns. Throughout the semester, some students increasingly grew concerned about their own time management and personal organization skills [14]. For instance, some students had trouble collaborating on team projects and developing a sense of community with other students in the class [17]. Researchers teaching a graduate course for pre-service teachers assessed levels of student satisfaction between the on-campus traditional course and the blended distance section [18]. During the preliminary analysis of the data, five themes emerged across all the survey questions: classroom climate, learning needs, learner efficacy, interaction and appropriate format for the content. While the traditional students consistently expressed satisfaction in all of the theme areas, the students in the blended format were less satisfied. The researchers reported that these students felt it was too big of a sacrifice for their own education and enjoyment to want to do it again.

In addition to being concerned about student attitudes, researchers have explored whether blended learning impacts the quality of student learning. Whether through face-to-face, online or blended delivery, many studies show no significant differences in student learning outcomes [6,7,19,20]. At the University of Central Florida, researchers found the blended model having learning outcomes comparable to, and in some cases, better than face-to-face while lowering attrition rates in comparison with the fully online students [21].

The perceptions of faculty teaching blended learning courses have also been studied. Instructors teaching a blended learning course can expect to invest more time becoming familiar with available technology, creating in-class activities, and reflecting on overall course structure [14]. In addition, instructors are advised to take deliberate action once courses begin towards creating a community of inquiry, such as monitoring and responding to online discussion board postings [22]. Furthermore, instructors need to

consider ongoing classroom assessment. Because of these time-consuming tasks, some advise that faculty receive additional support and resources when teaching blended learning courses for the first time [6,23].

### **III. RESEARCH APPROACH**

#### **A. Institutional Context**

Because of GGC's emphasis on developing graduates with strong technical skills, all students are required to take at least two information technology (IT) courses. The first course in this sequence is an introductory computing course which focuses on both conceptual knowledge and skills development. Students learn appropriate technical terminology and get hands on experience in using software applications and hardware. After completing the course, students should be able to demonstrate proficiency in personal productivity software such as word processing, spreadsheets, and presentation graphics; effectively use computing tools to support collaborative projects; identify mechanisms for protecting themselves against computer security threats; and explain the interaction among the main hardware components of a personal computer. This course is considered a "gateway" course for successful completion of the freshman year. As such, student achievement in the introductory computing course garners significant attention as part of GGC's First Year Matters (FYM) initiative. This program utilizes a national model of excellence known as "Foundations of Excellence in the First College Year" associated with the Policy Center on the First Year of College (<http://www.fyfoundations.org/>).

Since the course was first taught in fall 2007, two challenges quickly became apparent. First, students entered the course with varied skills, abilities, and interests. A key challenge for the instructor, then, is setting an appropriate learning pace that will not frustrate students because it is either too fast or too slow. With the blended learning model, instructors could provide online, self-paced training on selected topics. Students that wanted more hands-on instruction could request additional help from the instructor as needed. Second, school administration needed to more efficiently use scarce resources. Like many other public institutions, GGC has faced dramatic budget cuts due to economic pressures. At the same time, the school anticipates increased enrollment and has to plan for rapid growth. Since this course is taught in a computer classroom which seats a maximum of 25 students, classroom space is at a premium. With the blended learning model, this space could be shared among multiple sections by adding a significant online component to coursework. Therefore, in Summer 2008, a pilot group of faculty worked together to transition the introductory computing course to a blended learning format. At GGC, this research group became known as the Hybrid Project; therefore, the terms "blended learning" and "hybrid" are interchangeable in the following discussion.

#### **B. Data Collection and Analysis**

In Fall 2008, we began implementing selected sections of the introductory computing course in the blended learning format. In fall 2008, this involved two sections of the introductory computing course and two instructors; in spring 2009, this was expanded to five sections of the same course with three instructors. By spring 2010, eleven hybrid sections and eight instructors had been added; however, only four of those sections and three instructors participated in this study. During the first year, the courses were originally scheduled to meet on Mondays, Wednesdays, and Fridays. Under the blended model, class would typically meet face-to-face only two out of those three days. In Spring 2010, we explored a variety of formats to the hybrid including once a week meeting for 2.5 hours.

Students in the blended sections were surveyed at the midpoint and the end of the semester about their perceptions of the hybrid format. Several questionnaire items were adapted from existing instruments [6]. At the midpoint, students were asked about their background (classification, major, number of credit hours taken, and experience with online courses), level of experience with the software applications used in the course, internet access, learning preferences, and level of interaction with their instructor. In addition, we asked three open-ended questions: How do you think having so much responsibility for your own learning has affected your performance in the course? What has been the most effective part of the class? What has been the least effective part of the class?

At the end of the semester, students were again asked about the level of interaction with their instructor. There were additional open-ended questions: how do you think having so much responsibility for your own learning has affected your performance in the course? What has been the most effective part of the class? What has been the least effective part of the class? What advice would you give a student considering a hybrid course for the first time? What suggestions can you provide to help strengthen this hybrid course? Considering all of the assignments and activities both in and out of class: what were the most meaningful experiences you had?

Throughout the semester, the instructors informally discussed their courses and offered suggestions for improvement. At the end of each semester, the three primary instructors that participated in the study reviewed student survey data, documented lessons learned, wrote summary reflections on our experiences, and made adjustments to course design.

## IV. RESULTS

### A. Student Perspectives

In this section we will discuss the results and student perceptions of the hybrid course in 5 sections taught by 3 instructors.

#### 1. Student performances on course goals from Fall 2009 – Spring 2010

All sections of this course include a common assessment of the following course goals (CG):

1. Understand the evolution of information technology and future trends.
2. Describe the ethical issues surrounding the uses of digital information.
3. Demonstrate proficiency in the use of various personal productivity software.
4. Understand the functionality and interaction among the main hardware components of a computer and appropriate terminology.
5. Acquire basic knowledge of computer security, protection mechanisms and privacy threats on Internet.
6. Understand the role of computing tools in supporting collaborative projects.
7. Understand the principles of computer networking.
8. Understand the different types of application and systems software and their roles in computing

The following chart shows the average student performance on course goals from Fall 2008-Fall 2009. The students enrolled in hybrid sections performed slightly better than the traditional sections on 4 course goals, namely 1, 2, 5 and 6. The students enrolled in traditional sections performed better than the hybrid sections on course goals 3, 7 and 8. The performance of both groups was the same for course goal 4. Overall, as can be seen in Figure 1, the differences between the two groups was not strong. Such differences could be attributed to a number of factors such as extent to which instructors emphasized the topic or students' pre-existing knowledge on the topic. Additional data collection and analysis would need to be undertaken to better understand these differences.



Figure 1: Average Student Performance on Learning Outcomes

## 2. Retention rates of students, hybrid vs. non-hybrid from Fall 2009 – Spring 2010

Figure 2 shows the final grades for students in hybrid vs. non-hybrid classes from Fall 2009-Summer 2010. The percentage of students passing the course with an A, B, or C was similar for both the hybrid and traditional courses across all semesters. Just as important from a retention standpoint, the percentage of students receiving a D, F, Incomplete, or Withdrawal did not vary between the hybrid and traditional course.

		A-C		D		F		I		W		A11
		#	%	#	%	#	%	#	%	#	%	N
Fall 2009	Hybrid	98	81.0	3	2.5	11	9.1			9	7.4	121
	Tradi	281	84.6	9	2.7	28	8.4	4	1.2	10	3.0	332
Spring 2010	Hybrid	168	70.0	15	6.3	25	10.4	3	1.3	29	12.1	240
	Tradi	231	73.6	15	4.8	36	11.5	3	1.0	29	9.2	314
Summer 2010	Hybrid	50	84.7	3	5.1	3	5.1	1	1.7	2	3.4	59
	Tradi	85	87.6			5	5.2	2	2.1	5	5.2	97

Figure 2: Retention Rates in the Introductory Computing Course

## 3. Student demographics

These 5 hybrid sections were surveyed to gather data about students' perceptions of the hybrid course. The permission to survey these students was obtained from GGC's IRB committee. A Likert scale rating of 1-5 was used, with 1 corresponding to Strongly Disagree and 5 corresponding to Strongly Agree. 35 students responded to the surveys in Fall 2008, 83 in Spring 2009, 43 in Fall 2009 and 28 in Spring 2010.

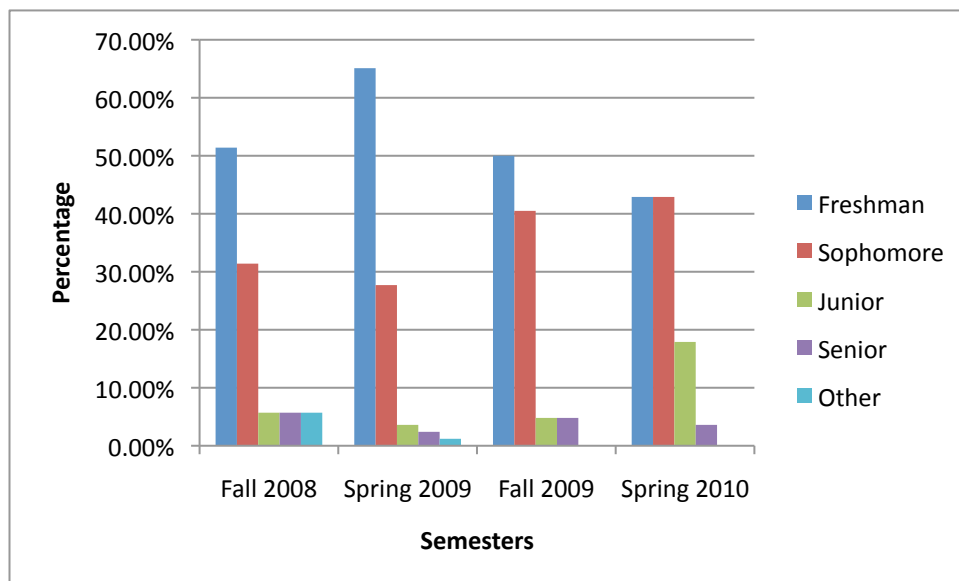


Figure 3: Student Classification for Survey Respondents

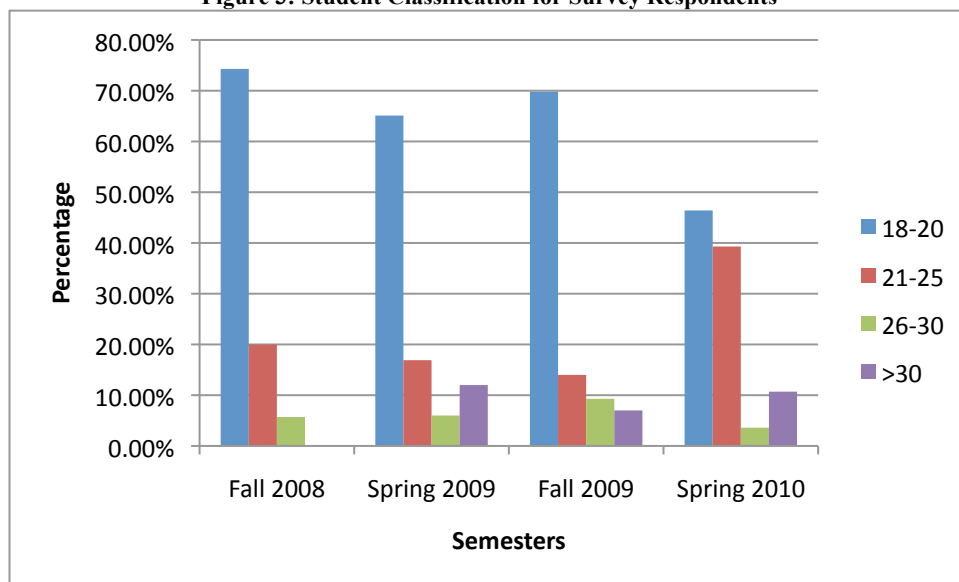
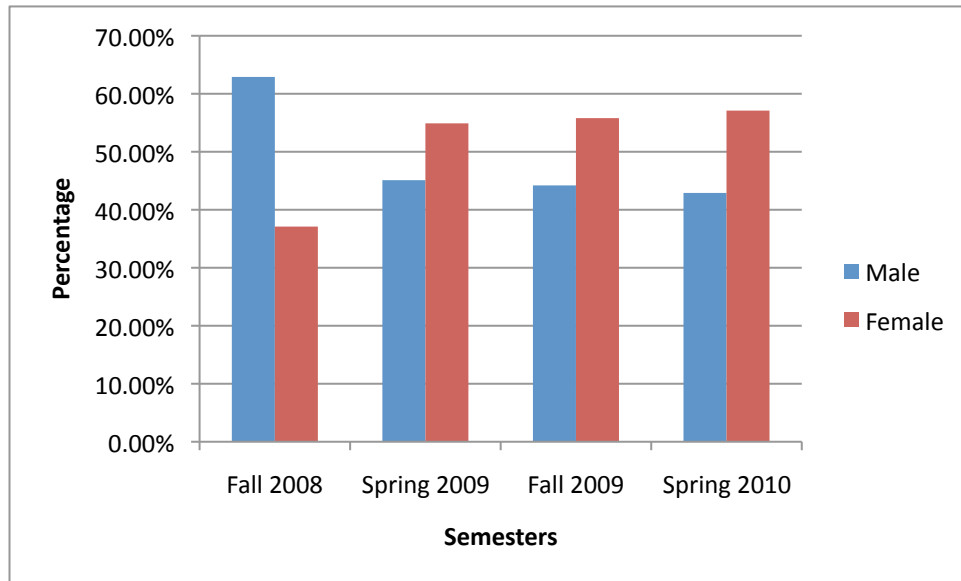


Figure 4: Age Distribution for Survey Respondents



**Figure 5: Gender of Survey Respondents**

As shown in Figures 3 and 4, majority of the students enrolled in these sections are either Freshman or Sophomore and majority are in the 18-21 age group. More nontraditional students (older than 30) were registered in the Spring semesters than in Fall. As shown in Figure 5, more female students were enrolled in these sections in Spring 2009, Fall 2009 and Spring 2010. In Spring 2010 64.28% of the students reported that they liked to learn on their own (rating of 3 or higher) and 32.14% agreed to having trouble using technology to complete assignments (rating of 3 or higher).

#### **4. Perceptions and Satisfaction from Survey Data**

Students were surveyed for their perceptions about the amount and quality of interaction with their instructors and peers and about their overall satisfaction with this hybrid course and possibility of enrolling in another hybrid course in the future. As can be seen from Figure 6, average student ratings were 3 or higher on a scale of 1-5 for all the questions. Females seemed to be more satisfied with the hybrid course than the males. On average 46.26% females rated overall satisfaction for the hybrid as 3 or higher and 42.34% males rated overall satisfaction as 3 or higher. Distribution of overall satisfaction of the course by age groups was also even except for Spring 2010 where the satisfaction rating was very high for age group 26-30. There are no significant differences in the overall satisfaction among students who rated “Learning on my own” as low or high. This rating is evenly distributed. Students who disagreed with the statement “I like to learn on my own” were as satisfied with the course as the students who (strongly) agreed with this statement. In Fall 2009 there was a clear trend in the overall satisfaction rating among students who reported to “having trouble using technology”. Those who agreed to having trouble using technology reported lower overall satisfaction with the course as compared to the students who disagreed with that statement. In Spring 2010 this trend does not seem to be the same. One of the reasons behind this could be students seeking and obtaining required help either from the instructor or the Academic Enhancement Center. The Academic Enhancement Center at Georgia Gwinnett College interviewed IT tutors in Summer of 2009 and hired them in Fall 2009. The Academic Enhancement Center’s tutoring services were promoted to students in Spring 2010. In one of the initial sections in Fall 2008, an instructor kept tutoring hours once a week with students.

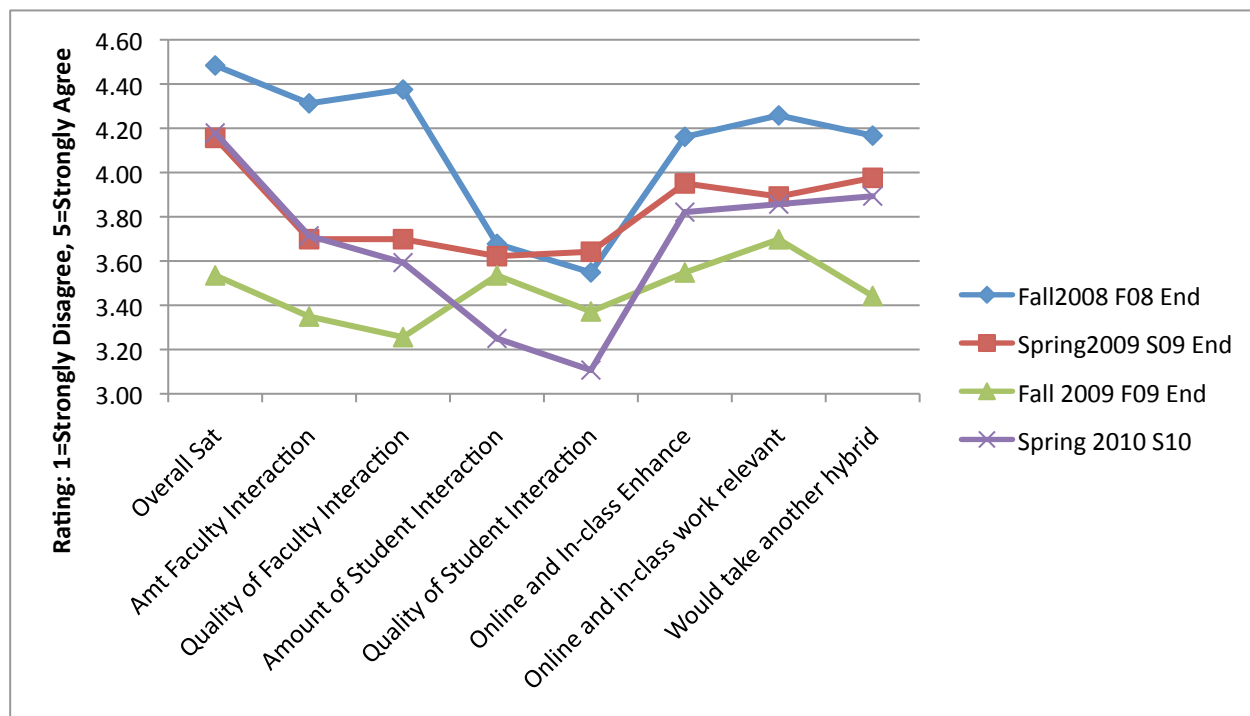


Figure 6: Student Perceptions and Satisfaction

## 5. Qualitative Assessment

The end of semester surveys also included some open-ended questions that were aimed to gather qualitative feedback from the students. Student responses to these open-ended questions helped us identify distinct themes.

Several of these themes reflected positive aspects of the hybrid course. Representative student comments are listed below:

- Flexibility:** “It has made me come to class since we don’t have it every day of the week. In return, I pay attention and get my school work and learning done outside of class when I have time.” “Makes me go home and do the reading or do the practice exercises. It is nice to finally be able to do what I need to do, when I want to.”
- Interaction with professor:** “I think that it helped a lot. I like to learn about things on my own, but at the same time with the help of an instructor.” “Having the in-class, hands-on activities with [our professor] in the room able to help and answer questions was meaningful.” “Make sure you keep up with when something is due and check with your instructor to make sure you know how to complete the assignment properly because points are deducted faster than you know it!”
- Independent learning:** “I believe that I have learned more than I would have if I didn’t have so much responsibility.” “Having responsibility, and not having an instructor there at all times to tell you to complete my assignments, has helped me to focus more on my work and take my time when completing each assignment”
- Authenticity:** “I think that doing so much work outside of class might sometimes be challenging, but it prepares you for the real world because there is no one there to guide you, which forces you to become more independent in a way.”
- Learning style:** “It made me really understand what I was learning and I am a very hands on person.”
- Social presence:** “[What I liked best was] meeting new people, learning new things, having fun



doing it.”

Other themes indicated concerns or challenges students had when taking the hybrid course:

- **Requires discipline:** “I think it has affected my grade in a bad way overall. Having this much responsibility and the same with all of my other classes made me feel like I had no life at all except for school. And when your [sic] 20 years old your [sic] suppose to be having the time of your life. I feel like I've missed out on my life during this semester”
- **Requires time management skills:** “Sometimes, I waited until last minute to start my work.” “I think the hybrid course has taught me that I need to set apart weekly time for myself to accomplish work.”
- **Requires comfort with technology:** “With so much work using technology, their [sic] is a greater responsibility of knowing how to use it.”
- **Conflicts with preferred learning style:** “I still don’t think anything was as effective as being in class and learning by doing what [my professor] asked the students to do.”
- **Requires investment of time:** “Be prepared to work outside of class. Alot!”

In addition, the qualitative assessments also revealed that a variety of techniques were used in the classrooms and most students found something that addressed their learning style. Some students preferred the textbook, while others preferred MyITLab. Some students enjoyed working in teams, while others had positive responses to online discussions. In-class group activities, video tutorials, outlines, etc. were other techniques that received favorable responses. Reduced face to face to communication with the instructor did seem to be a problem for a few students.

## B. Faculty Perspectives

In this section we will discuss faculty perceptions of teaching this hybrid course based upon reflections that were collected at the end of each semester. Faculty identified several success factors for successfully teaching and designing hybrid courses:

- **Play to your strengths** “The first challenge of designing hybrid courses is the determination of which activities are your strengths and which activities are more effectively accomplished online. For instance, I could lecture interminably but does that engage the students?”
- **Utilize technology** “Some material can be delivered just as well online and give students the opportunity to look at it when they are most prepared to do so, rather than on my timetable.” In addition, you can support a topic with an online component if you do not enjoy teaching that topic as much or have observed that this topic is difficult for students. As a consequence, you develop stronger skills teaching online. Puts you in a more innovative frame of mind.
- **Build a classroom without walls** Students participated in groups that met both in and out of class. Therefore, they interacted with each other more. Through these interactions, there was more evidence of an online community forming with students. In some cases, online discussions were used. Course management software offer tools that promote communication with students in the ways that are more natural for them – things like sending instant messages, online chat, email notifications of new content being available, etc.
- **Provide tutoring and on-line support** “I did incorporate more tutorials from MYITLab (online publisher tutorials) for the software portion of the course. These interactive tutorials were for review purposes only and students appeared to benefit from the extra practice afforded them.”
- **Creatively manage out-of-class time** “I love teaching this class as a hybrid. When I taught this course on TR for 1 hour and 50 minutes each, some students complained that the class meetings were too long and that there were too many assignments. With the hybrid, I am better able to manage the 1 hour 15 minute class time to include a mixture of lecture and active learning techniques. Students actually have more assignments, but this seems an acceptable trade-off

given that they are excused from lecture once a week. I have also noticed that students are more likely to start assignments earlier and then ask more specific questions in class.” “These projects are divided into 2-3 different parts with assignments due on the day that we do not meet face-to-face. During class, I teach the skills needed to complete the project and answer questions students have.”

At the same time, faculty identified several challenges with teaching and designing hybrid courses:

- ***Creatively manage in-class time*** “With a limited number of face-to-face classes, I was more reluctant to use class time for important activities like guest speakers, additional quizzes or tests, or library trips.”
- ***Balance face-to-face and online components*** “I taught myself to take a deep breath and not feel compelled to cover material during the face-to-face sessions. Rather, those sessions should be focused on collaborating with students in the learning process and promoting discussions. Technology thus plays a critical role in developing materials/tutorials that can be viewed online to fill that gap.”

“I continued the graded online discussion questions and made a more concerted effort to discuss the postings in class this semester than I did in the fall. I believe I still need to design questions that evoke more response and promote more engagement.”

“Students must feel that the investment of their time in an activity such as online discussion questions will be rewarded with enhanced classroom participation or deeper connection with the material.”

“One strategy I have used to link online and in-class activities is through well structured projects that apply the software skills learned in a real-world context. For example, students create an Excel spreadsheet comparing the fuel efficiency and total ownership cost of several cars.”
- ***Engage and motivate students*** “Students were given reading assignments on the days that we didn’t meet and then the following class was supposed to be a discussion on what they read. Most students would come unprepared and the discussion session usually ended as a lecture, leaving lesser time to do other things... Quizzes were the only way to get the students to read.”
- ***Ensure sufficient out-of-class support*** “Designing and grading the online activities takes a lot of time. In addition to creating the assignment, I need to make sure that students have enough online resources to help them if they get stuck.”

“I had several students that had low skill levels on the application software and were anxious about using the computer. These students needed additional support and reassurance... This experience has shown me how critical tutoring or other online support is for students taking hybrid courses.”
- ***Assess student fitness for online environment*** “This format seems to work best for disciplined, more mature students that like to work independently. In my class, I had some students that still preferred to be told everything instead of working on their own.”

“I encountered the same issues with students as expressed by the other instructors: tardiness/inconsistency in attending class and in submitting assignments. That resulted in some students lagging behind in their online work and provided me the challenge, as a hybrid teacher, of designing in-class activities that addressed everyone’s needs.”

## V. DISCUSSION

Although the overall student rating for the hybrid course has been favorable, the reduced face-to-face communication and required self discipline and time-management skills pose a challenge to some students. Raising awareness about what a hybrid course entails and making expectations clear at the beginning is of utmost importance to students who may be enrolling in a hybrid course for the first time. Online preparedness tests can also be used by students who might be unsure if a hybrid course is suitable for them. It is also important to provide consistent support to the students throughout the semester. For

example, students can be required to attend workshops on topics like time management, test anxiety, reading textbooks, and stress management. In addition, faculty can be encouraged to hold office hours (preferably face-to-face) or through a tutoring center where students can seek additional help. The instructor needs to be proactive in seeking students who might be falling behind and following up with them. In Fall 2010, GGC implemented a student early warning system within the introductory computing course to alert students and their advisors who have attendance, performance, or conduct issues.

Another problem that students might face in a hybrid course is the use of multiple technologies. If multiple technologies are used inside and outside the classroom, a student who is not technically competent may feel frustrated and lost, especially in the beginning. In such cases it is important to be consistent in the way in which content is delivered to the students. Having one place where the students can be assured to find all the information that they need is very important. The students may be directed to other websites and tools from this central location, but the existence of a central location is important. Consistency in when and how assignments are to be submitted also helps students, especially those students that may find reduced face-to-face communication difficult to adjust to. It is also equally important that the students know where to find technical support for all the technologies that are used in the classroom.

Some other techniques that might help the students include, supplementing reading assignments with clear lesson objectives, lecture podcasts and/or video tutorials. Clear objectives and multimedia supported content can motivate and help the students in completing their reading assignments. Reading assignments can also be combined with low stakes self assessment quizzes. Making group work a part of the class can also help the students form a study group and help each other succeed.

From a faculty perspective, designing and teaching a hybrid course for the first time is a challenge. Faculty first need to realize that this is a complete redesign of the course and requires considerable time. It is also a shift in teaching style that they need to understand. Some of the challenges that faculty may face include, designing a course with appropriate workload for the students (avoid creating a 1 ½ course), designing out of class activities that have relevant connection with in-class activities and that support in class activities and outcomes. Faculty may have to spend additional time outside of class to help struggling students and address questions about students' technical difficulties.

Proper training is absolutely necessary for a faculty member to transition from teaching traditional courses to a hybrid course. To address this need, in Spring 2009, the Center for Teaching Excellence (CTE) initiated the Hybrid Fellows project. The goal of the Hybrid Fellows program was to promote best practices in hybrid course development, to develop an appreciation for pedagogical theories, and to introduce relevant online technologies. Being mindful of the demands placed on faculty in a new institution, the initial workshop began with two half- day sessions during Summer 2009. The workshop topics focused on well-known resources in blended learning from Simmons College and University of Wisconsin-Milwaukee as well as pedagogical pieces such as Seven Principles for Good Practice in Undergraduate Education [24]. Faculty participants were asked to redesign existing traditional courses into the hybrid format. Faculty were also required to participate as students in an online hybrid course with case studies, group projects, quizzes and discussions.

Based upon these initial experiences, the Hybrid Fellows program has been expanded to become a yearlong faculty development program which uses a blended learning format with a mixture of video conferencing, online discussions, face-to-face training, and seminars. The CTE has developed checklists to guide faculty in best practices for teaching hybrid courses. These checklists are used to assess courses at both the beginning and middle of the semester.

## VI. CONCLUSION

The blended learning model recognizes that some material can be delivered just as well or better online. By combining face-to-face class sessions with online learning, students can engage in learning when they are most prepared to do so, rather than on the instructor's timetable. At GGC, students taking blended

learning courses reported some challenges with the instructional format. However, overall, students reported high levels of interaction with their instructor, and student satisfaction with the course increased by the end of the semester. In addition, student performance in the traditional and blended learning sections of the course were comparable. Faculty at GGC also expressed concerns about how to effectively convert a face-to-face course to a blended format. Faculty development experiences, such as the Hybrid Fellows program, helped faculty develop learning communities and share best practices in teaching blended learning courses. Although there was considerable time spent designing and setting up the blended course, overall faculty experiences were also quite positive.

### VII. ABOUT THE AUTHORS

**Nannette P. Napier**, Ph.D., is Assistant Professor of Information Technology at Georgia Gwinnet College (GGC). Napier engages in action research that addresses challenges of software development firms such as effectively managing software projects, creating and managing software requirements and using agile development methodologies. Napier's research has been published in several journals, including IEEE Transactions on Software Engineering, Information Systems Journal, and Software Process: Improvement and Practice. Her research has also been presented at national and international conferences, including International Conference on Information Systems (ICIS), America's Conference on Information Systems (AMCIS) and Hawaii International Conference on System Sciences (HICSS). Napier is a member of the Association for Information Systems. Prior to attending graduate school, she worked professionally as a senior software engineer for 8 years. She is active in technology pipeline initiatives at GGC focused on recruiting and retaining students in IT-related careers.

**Sonal Dekhane**, Ph.D., is an Assistant Professor of Information Technology at Georgia Gwinnet College (GGC). Dr. Dekhane's interests lie in the areas of data mining, software engineering, mobile application development and software engineering education research. Her research has been presented at various national and international conferences including International Conference on Data Mining (DMIN), International Conference on Frontiers in Education: Computer Science and Computer Engineering (FECS) and IADIS International Conference Mobile Learning. She has been involved in curriculum development and program assessment initiatives at GGC.

**Stella Smith**, Ph.D. is Director of the Center for Teaching Excellence at Georgia Gwinnet College. In that capacity, she has initiated the Hybrid Fellows program, organized faculty development workshops, and mentored new faculty on pedagogical practice. In addition, she teaches information technology courses at GGC. She has many years of experience teaching both fully-online and hybrid courses and has received college, state, and national awards for her innovative teaching approaches. She earned a Ph.D. in instructional technology from Georgia State University.

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